

Initially, the title has been replaced with a new, more descriptive title, as required in the Office Action.

The Examiner is sincerely thanked for the indication at page 4 of the Office Action that Claims 1-48, 56-84, and 86-92 have been allowed.

The Office Action Summary states that Claim 85 is allowed. However, that claim was cancelled in the Amendment After Final Rejection filed on August 7, 2002, and thus the Office Action Summary is in error.

Claims 49-55, 93, and 94 were rejected under 35 U.S.C. § 112, first paragraph, as not being supported by an enabling disclosure. In particular, the Office Action contends that the specification does not provide support for a first member.

Without conceding the propriety of this rejection, Claims 49-51, 93, and 94 have been amended as deemed necessary to even further define the first member in terms of its uneven geometry. Support for Claims 49-51, 93, and 94 is found in the specification as originally filed, at least from page 35, line 13 to page 63, line 11. Applicants respectfully submit that one skilled in the relevant art would clearly understand in view of at least those portions of the specification, how to make and use the invention recited in Claims 49-51, 93, and 94, regardless of whether "[t]he first member . . . can be any structure having uneven geometry." Accordingly, it is believed that the Section 112, first paragraph, rejection has been overcome and its withdrawal is therefore respectfully requested.

Claims 49-54, 93, and 94 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,181,870 (Stevens).

As amended, independent Claim 49 is directed to an electron beam apparatus comprising a hermetic container which includes an electron source having electron emission devices and targets exposed to the electrons emitted from the electron source, and further comprising a first member within the hermetic container. The first member is provided with an uneven geometry at least on a part of its surface, and the uneven geometry is arranged at least in two directions on the surface, such that total secondary electron emissions generated by irradiating the uneven geometry of the first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.

Independent Claim 50 is directed to an electron beam apparatus comprising a hermetic container which includes an electron source having electron emission devices and targets exposed to electrons emitted from the electron source, and further comprising a first member within the hermetic container. The first member is provided with an uneven geometry at least on a part of its surface, the uneven geometry constituting of the amplitudes of at least two kinds of unevenness, such that total secondary electron emissions generated by irradiating the uneven geometry of the first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.

Independent Claim 51 recites an electron beam apparatus comprising a hermetic container which includes an electron source having electron emission devices and targets exposed to electrons emitted from the electron source, and further comprising a first

member within the hermetic container. The first member is provided with an uneven geometry at least on a part of its surface, the uneven geometry constituting of the cycles periods of at least two kinds of unevenness, such that total secondary electron emissions generated by irradiating the uneven geometry of the first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.

Stevens relates to an electron gun assembly for use in a color television picture tube, for preventing a grey scale imbalance in the screen of the tube during operation. Three electron guns 54, 56, and 58 are contained in a neck 46 of tube 2, and are electrically connected to pins 66 through base 68, and emit electrons 60, 62, and 64. At col. 5, lines 10-16, Stevens refers to a unitized in-line gun in which common electrodes 26, 28, 32, 34, 36, and 38 have on each side thereof at least one pair of widely spaced, relatively narrow claws embedded at widely spaced points in a wide bead 50.

The Office Action asserts that the wide bead 50 of Stevens corresponds to the first members recited in the rejected claims. However, while Stevens may refer to relatively narrow claws embedded at widely spaced points in a wide bead 50, nothing has been found, or pointed out, in Stevens, that would teach or suggest an electron beam apparatus comprising a first member with an uneven geometry at least on a part of its surface, wherein the uneven geometry is arranged at least in two directions on the surface, such that total secondary electron emissions generated by irradiating the uneven geometry of the first member with electrons emitted from plural directions is smaller than total

secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions, as recited in Claim 49.

Neither is Stevens seen to teach or suggest an electron beam apparatus comprising a first member provided with an uneven geometry at least on a part of its surface, the uneven geometry constituting of the amplitudes of at least two kinds of unevenness, such that total secondary electron emissions generated by irradiating the uneven geometry of the first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions, as recited in Claim 50, or an electron beam apparatus comprising a first member provided with an uneven geometry at least on a part of its surface, the uneven geometry constituting of the cycles periods of at least two kinds of unevenness, such that total secondary electron emissions generated by irradiating the uneven geometry of the first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions, as recited in Claim 51.

Therefore, Claims 49-51 are each believed clearly patentable over Stevens.

Independent Claims 93 and 94 recite an electron beam apparatus comprising a first member which has features that are similar in at least some relevant respects to those of Claim 49, except that the first member recited in Claim 93 has an uneven geometry with a multiple cycle structure, and the first member recited in Claim 94 has a random uneven geometry on at least a part of its surface.

For substantially the same reasons as those set forth above, Applicants respectfully submit that Stevens is not seen to teach or suggest a first member as recited in Claims 93 and 94, and thus those claims are each deemed clearly patentable over Stevens.

Added Claims 95-100 each recite features relating to a first member having an uneven geometry at least on a part of its surface, and those features are similar in many relevant respects to those of Claim 49 discussed above. Accordingly, Claims 95-100 also are believed clearly patentable over Stevens for substantially the same reasons as is Claim 49.

Added independent Claims 101-109 also recite a first member having an uneven geometry as defined in those respective claims. For substantially the same reasons as those give above, Applicants respectfully submit that Stevens is not seen to teach or suggest a first member having features as recited in those claims, and thus those claims also are each deemed clearly patentable over Stevens.

A review of the other art of record, has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as a reference against the above-discussed independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons as are those independent claims. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or

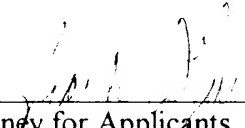
reconsideration, a the case may be, of the patentability of each on its own merits is respectfully requested.

Since this Amendment And Response To Office Action is filed within the three month statutory period set forth in the Office Action (in view of the Patent and Trademark Office being closed on February 18, 2003), it is believed that no extension fee is required in connection herewith. However, if an extension fee is required, please charge Deposit Account 06-1205 for the amount of the extension fee.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

  
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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

49. (Amended) An electron beam apparatus comprising a hermetic container which includes an electron source having electron emission devices and targets exposed to the electrons emitted from said electron source and further comprising a first member within said hermetic container,

wherein said first member is provided with an uneven geometry at least on a part of its surface, said uneven geometry being arranged at least in two directions on the surface, such that total secondary electron emissions generated by irradiating said uneven geometry of said first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.

50. (Amended) An electron beam apparatus comprising a hermetic container which includes an electron source having electron emission devices and targets exposed to [the] electrons emitted from said electron source and further comprising a first member within said hermetic container,

wherein said first member is provided with an uneven geometry at least on a part of its surface, said uneven geometry constituting of the amplitudes of at least two kinds of unevenness, such that total secondary electron emissions generated by irradiating said uneven geometry of said first member with electrons emitted from plural directions is smaller than total

secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.

51. (Amended) An electron beam apparatus comprising a hermetic container which includes an electron source having electron emission devices and targets exposed to [the] electrons emitted from said electron source and further comprising a first member within said hermetic container,

wherein said first member is provided with an uneven geometry at least on a part of its surface, said uneven geometry constituting of the cycles periods of at least two kinds of unevenness, such that total secondary electron emissions generated by irradiating said uneven geometry of said first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.

--93. (Amended) An electron beam apparatus, comprising:

a hermetic container which includes an electron source having electron emission devices and targets exposed to electrons emitted from said electron source, and  
a first member within said hermetic container,

wherein said first member is provided with an uneven geometry on at least a part of its surface, and said uneven geometry has multiple cycles, such that total secondary electron emissions generated by irradiating said uneven geometry of said first member with



electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.

94. (New) An electron beam apparatus, comprising:

a hermetic container which includes an electron source having electron emission devices and targets exposed to electrons emitted from said electron source; and

a first member within said hermetic container,

wherein said first member is provided with a random uneven geometry on at least a part of its surface, said uneven geometry being arranged at least in two directions on the surface, such that total secondary electron emissions generated by irradiating said uneven geometry of said first member with electrons emitted from plural directions is smaller than total secondary electron emissions generated in a case of irradiating a flat surface with electrons under same conditions.